



Please add new claims 20-36 as follows:

20. A method for signal transmission via a radio interface in a radio communications system, comprising the steps of:  
utilizing a subscriber separation method to distinguish between signals;  
defining a radio channel by at least one of a frequency band and a connection-specific fine structure;  
assigning at least one radio channel for signal transmission between a first radio station and a second radio station;  
transmitting at least one signal via at least two transmission paths;  
determining for each transmission path at least one characteristic value, said characteristic value relating to transmission conditions on the radio interface;  
comparing said respective ones of at least one characteristic value among the at least two transmission paths, said respective ones of said at least one characteristic value being a same type of characteristic value among said at least two transmission paths;  
deriving a control signal based on said comparing step; and  
selecting a transmission path based on said control signal, said transmission path being selected specifically for the radio channel for transmitting a subsequent signal, said transmission path being selected on a periodically changing basis provided that a difference for any characteristic value among said at least two transmission paths does not exceed a predetermined threshold, said any characteristic value being a same type of characteristic value among said at least two transmission paths, said periodically changing basis ensuring transmission of at least two successive decorrelated signals via different transmission paths.

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21. A method according to claim 20, further comprising the steps of: sending said at least one signal by the second radio station and receiving said at least one signal by at least two antenna devices of the first radio station said receiving performed by utilizing a diversity reception, determining characteristic values from said at least one signal received by said at least two antenna devices; and utilizing the control signal to actuate a switching device, said switching device switches a subsequent signal specifically for the radio channel to one of the at least two antenna devices of the first radio station.

22. A method according to claim 20, further comprising: separating in time said at least one signal; and transmitting said at least one signal via one transmission path in each case.

23. A method according to claim 22, further comprising: sending said at least one signal that is separated in time, in each case, by one antenna device of the first radio station and receiving the said at least one signal that is separated in time by the second radio station; determining characteristic values from a received signal; and utilizing the control signal to actuate a switching device, said switching device switches a subsequent signal specifically for the radio channel to one of at least two antenna devices of the first radio station.

24. A method according to claim 23, further comprising the steps of: transmitting said characteristic values to the first radio station; and deriving the control signal from said characteristic values.

25. A method according to claim 23, further comprising the steps of: deriving the control signal in the second radio station; and transmitting the control signal to the first radio station.

26. A method according to claim 24, wherein the characteristic values and the control signal are transmitted by utilizing in-band signaling.

27. A method according to claim 20, wherein said connection-specific fine structure is formed by a CDMA code.

28. A method according to claim 27, further comprising the steps of: utilizing a TD/CDMA method as the subscriber separation method; and defining the radio channel by a frequency band and a time slot and a CDMA code.

29. A method according to claim 28, further comprising the step of: transmitting signals by utilizing a TDD method, said signals being transmitted from the first radio station to the second radio station and from the second radio station to the first radio station, separated in time, in one frequency band.

30. A method according to claim 29, further comprising the step of: transmitting at least two successive signals with a time slot being changed, said time slot being utilized for transmission, said time slot being changed periodically and in synchronism with a time protocol of the subscriber separation method.

31. A method according to claim 20, further comprising the step of: transmitting at least two successive signals with a frequency band being changed, said frequency band being utilized for transmission, said frequency band being changed periodically and in synchronism with a time protocol of the subscriber separation method.

32. A method according to claim 20, further comprising the step of: utilizing a joint detection method for transmitting signals between the first radio station and the second radio station.

33. A method according to claim 20, wherein said at least one characteristic value is at least one of a bit error rate value and a value proportional to a signal delay time between the first radio station and the second radio station and a value for a signal-to-noise ratio.

34. A radio station for signal transmission via a radio interface in a radio communication system that utilizes a subscriber separation method to distinguish between signals, wherein a radio channel is defined by at least one of a frequency band and a connection-specific fine structure, said radio station comprising:

at least one antenna device for at least one of receiving and sending at least one signal, said at least one signal being transmitted via at least two transmission paths;

an evaluation device that determines at least one characteristic value, said characteristic value relating to transmission conditions on the radio interface for each of said at least two transmission paths;

a control device that derives a control signal based on a comparison of respective ones of said at least one characteristic value among the said at least two transmission paths, said at least one characteristic value being a same type of characteristic value among the said at least two transmission paths, said control signal also being derived based on a comparison between a threshold value and a difference for any characteristic value among the said at least two transmission paths; and

a switching device that is actuated by the control signal and selects a transmission path for transmittal of a subsequent signal of the radio station for the radio channel, said switching device selects a